Cold Rollforming of Rolling & Collaspible Door Sections

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In this fifteenth series of articles on Rollforming we will discuss about Rollforming of Rolling Door & Collaspible Door Sections. On a conservative estimate in the whole of India every month in excess of 12,000 tons of Rolling & collapsible door sections are rollformed and the figure is increasing day by day. Nowadays, more than ever before , we need physical security at home and work to protect against vandalism and buglary. Rolling doors, collapsible or even elevating doors are required for shops, show-rooms,residential garages, factory buildings, aircraft hanger doors,ware-house entrances, painting booths etc. With such a great consumption of steel, ways and means are required to develop more efficient section designs , to protect them from rusting and corrosion in order to get a longer life. Presently most of the sections are only painted. The future trend is to go for galvanized and painted sections. With this measure the sections could be made thinner with higher stiffness. For highly corrosive atmosphere like sea side or ships stainless steel or aluminium sections are are also used. In the western countries more and more well designed and elegant looking rolling and collapsible doors are introduced into the market on a regular basis.

For simplicity, the description of rolling shutters is in four categories: the upper housing or "box" into which the slats roll ; the tracks, which guide and secure the slats; slats, which make up the body of the shutter and the bottom plate/bar where the locks and bolts are fixed. Slats are the horizontal strips which move up or down in rolling shutters. They are interconnected and sometimes include perforation along the hinge section which can be left open when the shutter is down to allow free flow of air and light through the slats.

Collaspsible or accordian shutters as shown in Fig.13 can be designed to open or close as one unit, moving left to right or right to left. For larger areas it can have a center opening so that half the shutter would move to the right and the other half to the left. They are less expensive than roll-down shutters. Also where enough head room is not available vertical collapsible doors are used. Vertical collapsible doors are also used for lifts/elevators with different designs.

Motorised and remote controlled elevating type doors mostly for garages are getting more and more popular in India . Perforated Doors are popular for retail storefronts where off hour visibility is desired for merchandise and interiors. In the western countries innovative problem solving designs where rolling doors opens and closes quietly with minimum vibration and no friction between the metal slats giving higher life and less maintenance are being developed and used.

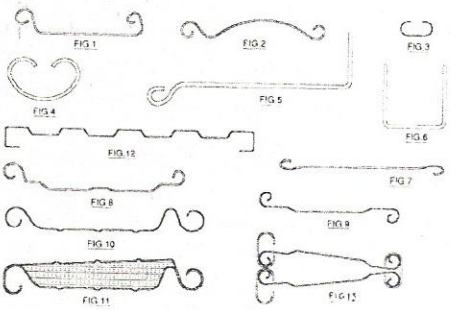
Specially constructed multilayered curtains for increased sound insulationhave also been developed. The curtain contains perforated metal slats, fabric or plastic sheet, PVC back with plastic cover and insulation. Foam filled aluminium slats are rollformed from pre-finished aluminium coil. Its profile reveals a double wall separated by a polyurethane core. The foam core adds strength while providing insulation.

Elevating doors: They are mostly used in residential garages. It can be fitted into just about any space. Because they fold out while elevating within the threshold, they need only minimal head room and wall clearance. Hence the interior walls remain open for virtually any use, allowing you to specify the surrounding elevation as you wish.

There are many designs available for super wide rolling doors which are used for aircraft hangers. Wide width super sealed roll doors are available for spray painting booths.

Fig. 1 to fig13 are some of the typical rollformed sections developed by Sedvik Industries, Bangalore for rolling doors, collapsible doors, elevator doors and insulating doors. There are several different designs available in the world market. Fig. 1,2,8,10 and fig.5 are used in rolling doors. Sections as shown in Fig. 12 are used for elevating type garage doors. Fig.4 and 7 are used in collapsible doors and Fig.3 and Fig.9 are used for elevator door sections. The section shown in Fig.5 which is the first integrated bottom plate section which was first time developed in India in the year 1971 by the author. Earlier to this, there used to be highly labour intensive three piece rivetted bottom plate section in the market.Also the stiffer and material saving flat shutter section shown in Fig.1 was developed by the author for the first time in India in the year 1983. Once developed, some variations of the designs have also been introduced into the Indian market.

Fig 11shows rollformed insulated fire door



section. Foam filled dual slats are rollformed from pre- galvanized coil. Its profile reveals a double wall separated by a polyurethane core. The foam core adds strength while providing insulation.

There is a huge potential and requirement for standardization, quality and design improvements in this area in India.With the opening up of our economy for foreign direct investment and the move for increasing globolisation, our building construction industries would be exposed more and more to the latest trends on the different designs of rolling, collapsible and elevating door systems available elsewhere in the world . As a result, more and more rollformed sections in this field are bound to be introduced into the Indian market in the years ahead.

The author Mr. A S Shetty is the honorable editor of this journal, and the chief executive of Sedvik Industries. For your queries you can contact him at 080-25452669 or email him at sedvik@vsnl.com For the last fourteen issues subscribe today to Industrial Business Mart @350/- for 2 Years, send mails to info@haritha.org